

## **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A membrane ~~Membrane~~ producible by shaping a polymer blend or a block copolymer comprising blocks of monomer units, loading the polymer blend or block copolymer with a blowing gas concentration within the polymer blend or block copolymer above a critical concentration at a temperature below a critical temperature, but above the glass transition temperature of the polymer blend/gas mixture or block copolymer/gas mixture and finally stabilizing ~~the~~ into a foam structure, ~~characterized in that as~~ said polymer blend being a homogeneous polymer blend comprising components including, at least one hydrophilic polymer and at least one hydrophobic polymer and/or a block copolymer of alternating blocks of hydrophilic and hydrophobic monomer units ~~is used~~, both the polymer blend and the block copolymer having a solubility relating to the used ~~foaming~~ blowing gas above the critical concentration.

2. (Currently Amended) A membrane ~~Membrane~~ according to claim 1, ~~characterized in that it~~ wherein said membrane is foamed at a temperature at least 10°C below the critical temperature.

3. (Currently Amended) A membrane ~~Membrane~~ according to claim 1 or 2, ~~characterized in that it~~ wherein said membrane is foamed above a critical concentration, said critical concentration being ~~which is~~ at least 40, ~~preferably at least 43, especially at least 45, especially at least 47~~ cm<sup>3</sup> (STP)/cm<sup>3</sup> of the polymer blend or block copolymer.

4. (Currently Amended) A membrane ~~Membrane~~ according to ~~one of claims~~ claim 1 to 3, characterized in that wherein at least one of the components of the polymer blend comprises an amorphous or semi-crystalline component.

5. (Currently Amended) A membrane ~~Membrane~~ according to ~~one of claims~~ claim 1 to 4, characterized in that wherein the polymer blend or block copolymer after shaping is charged with the ~~foaming~~ blowing gas at a temperature below the glass transition temperature of the polymer blend/gas mixture or block copolymer/gas mixture and is then foamed by increasing the temperature to above the glass transition temperature of the polymer blend/gas mixture or block copolymer/gas mixture, but below the critical temperature of the polymer blend/gas mixture or block copolymer/gas mixture.

6. (Currently Amended) A membrane ~~Membrane~~ according to ~~one of claims~~ claim 1 to 4, characterized in that wherein after shaping at a temperature above the glass transition temperature of the polymer blend/gas mixture or block copolymer/gas mixture but below the critical temperature of the polymer blend/gas mixture or block copolymer/gas mixture, the mixture is charged with the ~~foaming~~ blowing gas and thereafter it is foamed by a pressure decrease.

7. (Currently Amended) A membrane ~~Membrane~~ according to ~~one of claims~~ claim 1 to 4, characterized in that wherein before shaping the melt of the polymer blend/gas mixture or block copolymer/gas mixture, it said membrane is fed with the ~~foaming~~ blowing gas into an extrusion tool by a pressure decrease, and is foamed ~~there~~ at within said extrusion tool or before the exit exiting from the extruder said extrusion tool at a temperature above the glass transition temperature of the polymer blend/gas

mixture or block copolymer/gas mixture[[,]] but below the critical temperature ~~by the~~  
~~occurring a pressure decrease.~~

8. (Currently Amended) A membrane ~~Membrane~~ according to ~~one of claims~~  
~~claim 1 to 7, characterized in that as~~ wherein said blowing foaming gas is carbon  
dioxide ~~is used.~~

9. (Currently Amended) A membrane ~~Membrane~~ according to ~~one of claims~~  
~~claim 1 to 8, characterized in that~~ wherein the foam structure after foaming is stabilized  
by chilling, ~~preferably in an ethanol/water mixture.~~

10. (Currently Amended) A membrane ~~Membrane~~ according to ~~one of claims~~  
~~claim 1 to 9, characterized in that it~~ wherein said contains as hydrophobic polymer at-  
least is one of polysulfone, polyethersulfone, polyetherimide, polycarbonate<sub>1</sub> or any  
mixture thereof.

11. (Currently Amended) A membrane ~~Membrane~~ according to ~~one of claims~~  
~~claim 1 to 10, characterized in that it~~ wherein said contains as hydrophilic polymer at-  
least is one of polyvinylpyrrolidone, sulfonated polyethersulfone<sub>1</sub> and polyethyloxazoline<sub>1</sub>,  
or at least one functionalized polysulfone, polyethersulfone, polyetherimide<sub>1</sub> or  
polycarbonate<sub>1</sub> or any mixtures thereof.

12. (Currently Amended) A membrane ~~Membrane~~ according to ~~one of claims~~  
~~claim 1 to 11, characterized in that~~ wherein the glass transition temperatures of the  
components of the polymer blend have glass transition temperatures, said glass  
transition temperatures being are similar, ~~preferably not more different than 200°C,~~  
~~especially 150°C, more preferably 100°C.~~

13. (Currently Amended) A membrane ~~Membrane~~ according to ~~one of claims~~ claim 1 to 12, characterized in that wherein the polymer blend or block copolymer has a hydrophilicity, ~~which allow wetting of~~ such that a surface of the membrane surface is wet with ~~blood, plasma, or other~~ an aqueous solutions solution.

14. (Currently Amended) A membrane ~~Membrane~~ according to ~~one of claims~~ claim 1 to 13, characterized in that wherein said membrane it exists in the form of is a flat membrane, a ~~or~~ hollow fibre membrane, or a monofilament membrane.

15. (Currently Amended) Use of a membrane according to claim 1 ~~one of the~~ claims 1 to 14 for medical purposes, said medical purposes including, especially for the haemodialysis, haemofiltration, haemodiafiltration, plasmapheresis, immunotherapy, micro- or ultrafiltration or gas separation.

16. (New) A membrane according to claim 1 or 2, wherein the membrane is foamed at a critical concentration, said critical concentration being at least  $43 \text{ cm}^3$  (STP)/ $\text{cm}^3$  of the polymer blend or block copolymer.

17. (New) A membrane according to claim 1 or 2, wherein the membrane is foamed at a critical concentration, said critical concentration being at least  $45 \text{ cm}^3$  (STP)/ $\text{cm}^3$  of the polymer blend or block copolymer.

18. (New) A membrane according to claim 1 or 2, wherein the membrane is foamed at a critical concentration, said critical concentration being at least  $47 \text{ cm}^3$  (STP)/ $\text{cm}^3$  of the polymer blend or block copolymer.

19. (New) A membrane according to claim 9, wherein said foam structure is chilled in an ethanol/water mixture.

20. (New) A membrane according to claim 1, wherein the components of the polymer blend have glass transition temperatures, said glass transition temperatures being within 200°C of one another.

21. (New) A membrane according to claim 1, wherein the components of the polymer blend have glass transition temperatures, said glass transition temperatures being within 150°C of one another.

22. (New) A membrane according to claim 1, wherein the components of the polymer blend have glass transition temperatures, said glass transition temperatures being within 100°C of one another.

23. (New) A membrane according to claim 13, wherein said aqueous solution is blood or plasma.